



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

PL

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/934,784	08/22/2001	Gary Gilliam	303.221US5	9291

21186 7590 08/26/2003

SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A.
P.O. BOX 2938
MINNEAPOLIS, MN 55402

EXAMINER

KARLSEN, ERNEST F

ART UNIT PAPER NUMBER

2829

DATE MAILED: 08/26/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/934,784

Applicant(s)

GILLIAM, GARY

Examiner

Ernest F. Karlson

Art Unit

2829

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 May 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21-45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 21-45 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 14.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Art Unit: 2829

1. The amendment filed December 2, 2002 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: There is no support in the originally filed application for the material added at page 2, line 24, stating that the memory is an array or that it is DRAM memory.

Applicant is required to cancel the new matter in the reply to this Office Action.

2. Claims 21-45 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. There is nothing in the original disclosure relating to “dynamic random access memory (DRAM)” or to an “array of memory cells”. The limitations of claims 44 and 45 adding method steps to apparatus claims is improper.

3. Claims 21-45 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. There is no disclosure of what is contained in the charge pump or how it and other circuitry would form a voltage regulator. In order to be a voltage regulator a device has to sense a voltage level at a point where the voltage is to be regulated and control the voltage at that point. No sensing of what the voltage is at V_{bb} seems to be present. How can regulation take place

Art Unit: 2829

without sensing the level of that to be regulated? The disclosure simply says the apparatus of Figure 1 is a voltage regulator without detail of how regulation takes place. Looking at Figure 1, presumably Vcc is a source with one side tied to a reference level. Presumably the substrate would have one part connected to Vbb and another part connected, maybe through additional impedance, to a reference level. It isn't clear which terminal of the charge pump is a sensing terminal and which is an output terminal but presumably the terminal on the right is the output terminal. If the terminal on the left is the sense terminal it would appear that it would always sense the drop across M1 and would hold the substrate at a level related thereto regardless of the status of switches M4 and M6.

4. Claims 21-45 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is still not clear what the claimed elements are or how they would function. The meaning of any words not in the original disclosure is not clear. It is not clear how the voltage regulator is coupled to the substrate.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2829

6. Claims 21-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over McLaury in view of Bynum et al, Uchida and Sawamura.

McLaury shows apparatus for regulating substrate bias. Bynum et al show the concept of controlling the bias applied to a substrate by shunting or not shunting a diode in a line that applies a voltage to a substrate. Uchida shows a regulated power supply for an integrated circuit wherein switches shunt diodes in series to establish a desired voltage. See Figure 16 and column 8, line 58 to column 9, line 23 of Uchida. Column 9, line 17 to line 23 of Uchida indicates that switches could replace the fuses 126 of Uchida. Presumably the switches could be FET or bipolar elements. Sawamura shows the equivalence of diodes and FETs connected as diodes as depicted in figures 5 and 6. It would have been obvious to one of ordinary skill in the art at the time of the invention to have adapted the controlling elements of Bynum et al or Uchida to the apparatus of McLaury where FETs connected as diodes are substituted for diodes as suggested by Sawamura because one skilled in the art would realize that such would make implementation of a voltage regulator easier using FET technology. Although memory cell detail of claims 21-45 is considered new matter it is noted that such detail is present in McLaury. The method limitations of claims 44 and 45 are not given patentable weight.

Karlsen/ek

08/15/03


ERNEST KARLSEN
PRIMARY EXAMINER